Coral Reef Conservation Program Update

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FKNMS Sanctuary Advisory Council Meeting
Tuesday, April 18, 2017
Outline

1. Coral Program overview
2. Coral Program work supporting FKNMS
3. National Coral Reef Monitoring Program data and products
Mission: To support effective management and sound science to preserve, sustain, and restore valuable coral reef ecosystems for future generations

Coral Program Strengths
- X-NOAA Matrix, ecosystem approach
- Threat-based conservation strategy
- Strong federal, state/territorial, local relationships
- NCRMP and site-specific assessment/monitoring
History of CRCP

• Coral Reef Protection Executive Order Established the U.S. Coral Reef Task Force (1998)
• National Action Plan (2000)
• Coral Reef Conservation Act Established the CRCP (2000)
• External Review/Roadmap (2007-2008)
  – 13 to 3
  – Updated/Refined Goals & Objectives
  – Realignment of Grants Program
CRCP Goals & Objectives

- 20 year goals; 5 year objectives
  - 2010-2015
- Threat reduction implementation plans completed
- Currently in strategic planning to update Goals & Objectives
Where we work
CRCP Matrix Organization

Senior Management Council
- NOS
- NMFS
- OAR
- NESDIS

Program Manager

SEA Team
- NOS
- NMFS
- OAR
- NESDIS

External Grants Programs
- State & Territory
- Fishery Councils
- Domestic
- International
- NGO Partnership

National Program (NOAA)
- NOS
- NCCOS
- NMSP
- OCM
- ORR
- NMFS
- OHC
- OPR
- PIFSC
- PIRO
- SEFSC
- SERO
- OAR
- AOML
- OAP
- OER
- PMEL
- NESDIS
- NCEI
- STAR

NFWF PPP
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| - Atlantic Reef Monitoring  
| - Atlantic Mapping  
| - Water quality  
| - Coral Physiology  | - Pacific Reef Monitoring  
| - Pacific Reef Climate  
| - Pacific Mapping  
| - Socioeconomic Studies  | - Atlantic Reef Climate  
| - Water Quality  
| - Coral Ecology and Fisheries Research  | - Coral Reef Information System (CoRIS)  |
| **OCM**      | **SEFSC**     | **OAP**      | **STAR**     |
| - Grants Management  
| - Management Liaisons  
| - Socio-Economic Program Coordination  
| - NCRMP Coordination  
| - LBSP Coordination  
| - Climate Coordination  
| - International Program  
| - NOAA/USAID IAA  | - Atlantic Reef Monitoring  
| - Coral Biology  
| - Fisheries Science  
| - Socioeconomic Studies  | - Climate and Reef Monitoring  |
| **ONMS**     | **PIRO**      | **OER**      | **PMEL**     |
| - Florida Keys NMS  
| - Flower Garden Banks NMS  
| - Fagatele Bay NMS  
| - Paphanoumokuakea MNM  
| - MPA Center  | - Pacific Fishery Liaisons  
| - Watershed Restoration  
| - Local Capacity Building  | - Coral Reef Watch  |
| **ONMS**     | **SERO**      | **OHC**      | **ONMS**     |
| - Program Coordination  
| - Coral & Watershed Restoration  | - Ocean Monitoring  | - Florida Keys NMS  
| - Flower Garden Banks NMS  
| - Fagatele Bay NMS  
| - Paphanoumokuakea MNM  
| - MPA Center  | - Pacific Fishery Liaisons  
| - Watershed Restoration  
| - Local Capacity Building  | - Ocean Monitoring  |
Annual Funding: ~$26m

**National Program** – project funding to NOAA scientists and resource managers to address *CRCP Goals & Objectives*

**Coral Reef Conservation Grants Program** – 5 competitive grants and cooperative agreement programs

**Coral Reef Conservation Fund** – competitive grants to build public-private partnerships for coral reef conservation (NOAA & National Fish and Wildlife Foundation)

**USAID Asia-Pacific Partnership** – 5 year, $20m capacity building effort
Priority Threat: Impacts of Fishing
Priority Threat: LBSP
Priority Threat: Climate Change - Bleaching
2015: American Samoa before and after:
Flower Pot Island in Dec. 2014 & Feb. 2015
• Absorption of carbon dioxide from the atmosphere leads to pH decline, a process known as "ocean acidification"
• As a result, the growth of reef builders may be severely inhibited
• OA has been called the "osteoporosis of the sea"
2016 – A Year of Assessment & Evaluation

1) Internal Assessment of Domestic and International Work
2) Coral/Coastal Manager’s Survey
3) Coral Science Evaluation
   • National Coral Reef Monitoring Program
   • Science to support management actions
51 projects funded in support of the FKNMS since Fiscal Year 2010

- Other Research includes:
  - ESA coral status
  - Coral reproduction
  - Diseases
  - Restoration projects
  - Management performance
  - Non-indigenous species
  - Wider Caribbean ecosystem science
  - SEFCRI

**For a complete list of projects refer to fact sheet**
Continuous work in support of the FKNMS adding up to $16,257,134 in eight years!
CRCP work supporting FKNMS

- **NCRMP**: Started in FY13 - funded biannually in even years, so FY13,15,17 monitoring funding is reduced.
- **SEFCRI**: With the development of FL Local Action Strategy, CRCP funded more projects in the SEFCRI area.
- **Wider Caribbean**: Projects of great relevance to the FKNMS. Include projects with USVI and Puerto Rico.
National Coral Reef Monitoring Program

- Consolidated CRCP-funded monitoring starting in 2013
- Provides a robust picture of the condition of US coral reef ecosystems and connected communities at an island & regional scale
- Developed consistent and comparable methods
- Unique platform to leverage additional resources for higher resolution data needed to inform ESA, MSA and local management
1. Collect scientifically sound, geographically comprehensive data (biological, climate, and socioeconomic) in the U.S. coral reef areas

2. Develop consistent and comparable methods and standard operating protocols

3. Deliver data, data products, and tools to the coral reef conservation community

4. Provide periodic assessments of the status and trends of the nation’s coral reef ecosystems

5. Develop and maintain strong partnerships with federal, state/territory, and academic partners

6. Provide context for interpreting localized monitoring
Goals

1. Collect scientifically sound, geographically comprehensive data (biological, climate, and socioeconomic) in the U.S. coral reef areas

2. Develop consistent and comparable methods and standard operating protocols

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6. Provide context for interpreting localized monitoring
NCRMP Four Monitoring Themes

- Coral & Benthos
- Reef Fish
- Climate Impacts
- Socioeconomics
Florida NCRMP & partner sampling in 2016 (even years)

DRTO: 315 (fish), 115 (benthic); FLKEYS: 388 (fish), 122 (benthic); SEFCRI: 279 (fish), 93 (benthic)
Information dissemination

- Top tier = Report card
- 2\textsuperscript{nd} Tier = Summary reports
- 3\textsuperscript{rd} Tier = Technical reports, scientific literature
- Base = Data
New product: Status and trends report cards

**Indicators:**
- Benthic
- Fish
- Climate
- Socioeconomic

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**The Florida Reef Tract** extends south from Martin County in the upper St. Lucie Estuary and continues through the Florida Keys to the Dry Tortugas in the Gulf of Mexico. The Florida Reef Tract is the only coral reef found along the coast of the continental United States, and it is adjacent to the Everglades National Park.

**The South Florida Reefs** are adjacent to the heavily populated corridor between Miami and Palm Beach, and such reefs are among the most impacted reefs in Florida. These reefs have generally shown a series of one or two years of reef losses (reef is) that are paralleled by the decrease in benthic fish species diversity. Benthic fish abundance and diversity have been sustained even in areas with severe declines.

**The Dry Tortugas** are well protected and geographically isolated, so they face less direct impacts and threats than other Florida Keys and Southeast Florida Reefs. Reefs here are characterized by pristine and benthic reefs, in addition to well-developed deep reefs. Coral and fish populations here are some of the best in Florida. Successful reef-based fisheries management has resulted in the recovery of many fish populations, such as the Black grouper, mutton snapper.

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**Coral Reefs** are the basal of the coastal reef ecosystems, providing food and habitat for fish, shellfish, and marine mammals. They are also important economic and tourism resources. Two indicators for coral reefs are:
- **Coral present:** the percentage of live coral (excluding macroalgae without spongy growths).
- **Coral coverage:** the percentage of live coral.

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**People**

Heavy fishing pressure in Florida has had a dramatic impact on populations of large fish. The lack of large, female fish has a much higher reproductive potential than smaller fish. The reason is more obvious for the larger predators of the coral reefs. In addition, the size of many species of coral fish is greater in size and structure, and it has a greater impact on coral reefs as a whole, as fish play a key role in the health of coral reefs.

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**University of Maryland Center for Environmental Science**

[ian.umces.edu]
Condition Reports and Report Cards

Local management level
108 pages

National viewpoint
8 pages
Condition Reports and Report Cards

- Different needs at national vs. local level
- Different products for different audiences
- Same goal
- Opportunity to promote coral reef management in the Keys to a wide audience
Questions?

• We will stick around after the meeting - happy to answer questions or discuss anything in more detail

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